CHARACTERIZATION OF ISOLATES OF MONOPHASIC *SALMONELLA ENTERICA* SEROVAR *TYPHIMURIUM*

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ABSTRACT. Diarrhoeal diseases are the most common illnesses resulting from unsafe food which causes illness of 550 million people each year, including 220 million children under the age of 5 years. *Salmonella* is one of the four key global causes of diarrhoeal diseases (WHO, 2017). The most common serovars infecting humans worldwide are *Salmonella* ser. Typhimurium and *Salmonell*a ser. Enteritidis. Serovars that have been isolated from infected humans include also a monophasic variant (1,4,[5],12:i:-) of serovar Typhimurium and some other zoonotic nontyphoidal *Salmonella* serovars (CFSPH, 2013). In 2016, altogether 358 salmonellosis cases were reported in Estonia which is 27.3 cases per 100.000 inhabitant (Terviseamet, 2017).
The main aim of the present work was to characterize monophasic *Salmonella enterica* serovar Typhimurium isolated from food and patients in 2015-2016 in Estonia. Also, the distribution of other prevailing *Salmonella* serovars in Estonia is presented including longer period (2012-2016). During five years the most prevailing *Salmonella* serovars isolated from food were *S*. Derby, *S*. Typhimurium (incl. monophasic) and *S*. Isangi with the prevalence of 21.7%, 18.2% and 11.4%, respectively. During the same period the most often isolated *Salmonella* serovars in human patients were *S*. Enteritidis, *S*. Typhimurium (incl. monophasic) and *S*. Infantis with the prevalence of 44.6%, 20.3% and 14.7%. During five-year study period, in food *S*. Typhimurium and its monophasic variants were isolated in 97 cases wherein monophasic strains of those were 66.0%. In human patients altogether 212 *S*. Typhimurium and its monophasic variants were isolated, and monophasic strains of those were 19,3%. Similarly to many other countries the prevalence on monophasic *S*. Typhimurium has been risen during last years both in food and among human patients.
All analysed monophasic *S*. Typhimurium isolates of human origin from 2015 and 2016 (n = 10) were simultaneously resistant against ampisillin, tetracycline, streptomycin and sulfamethoxasole. One isolate of them was multiresistant against 9 antimicrobials. Monophasic *S*. Typhimurium isolates of food chain origin from 2015 and 2016 (n = 32) showed resistance mostly against ampicillin (n = 28), sulfamethoxasole (n = 27) and tetracycline (n = 24). Multiresistance was determined for 24 isolates of food chain origin. Altogether seven PFGE clusters were revealed among human and food chain monophasic *S*. Typhimurium isolates, and two clusters shared both human and food isolates.

REFERENCES

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